

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of )  
 )  
**Pellaux et al.** ) Atty. Dkt. **3024-120**  
 )  
Appl. No.: **National Stage of** )  
**PCT/IB2004/004125** ) Examiner: n/a  
 )  
Filed: herewith ) Group Art Unit: n/a

For: **METHOD FOR THE CONCENTRATION AND PURIFICATION OF BIOLOGICAL COMPOUNDS**

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Please amend the above-identified application as delineated below.

**Amendments to the Specification** begin on page 2 of this paper.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 3 of this paper.

**Remarks** begin on page 8 of this paper.

*Preliminary Amendment  
National Stage of PCT/CH2004/004125*

Amendments to the Specification:

On page 1, between line 1 and 2, directly after the title, please insert the following paragraph:

-- This is the U.S. national stage of International application PCT/IB2004/004125, filed December 15, 2004 designating the United States. --.

Amendments to the Claims:

Please amend claims 1 to 32 as set forth hereinafter.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of concentrating and purifying a target entity in a liquid sample, said method comprising contacting said sample with a superabsorbent polymer or a superabsorptive composite material to absorb at least a portion of the sample by said polymer or composite material.
2. (Original) The method according to claim 1 where the target entity is dissolved in the sample.
3. (Original) The method according to claim 2 where the sample contains additional dissolved compounds other than the target entity.
4. (Currently Amended) The method according to ~~any one of the preceding claims,~~ claim 3, further comprising absorbing ~~the~~ a solvent of the sample with the superabsorbent polymer or the superabsorbing composite material, thereby reducing the volume of the sample.
5. (Currently Amended) The method according to claim 4, further comprising absorbing the further dissolved compounds in said sample with the superabsorbent polymer or the superabsorbing composite material.

6. (Currently Amended) The method according to ~~any one of the preceding claims, comprising contacting~~ claim 1, wherein said sample is contacted with a said superabsorbent polymer.
7. (Currently Amended) The method according to ~~any one of the preceding claims~~ claim 4, wherein the solvent is a hydrophilic solvent, preferably water or a mixture of water and a water miscible solvent.
8. (Currently Amended) The method according to ~~any one of the preceding claims~~ claim 1, further comprising separating the target entity from the ~~swollen~~ superabsorbing polymers or superabsorbing composite materials, wherein said superabsorbing polymers or superabsorbing composite materials are swollen.
9. (Currently Amended) The method according to ~~any one of the preceding claims~~ claim 1, ~~where~~ wherein the target entity is a peptide or polypeptide.
10. (Original) The method according to claim 9, wherein the peptide or polypeptide is an enzyme, an antibody or antibody fragment, an interferon, a blood clotting factor, erythropoietin, insulin, a hormone or a cytokine.
11. (Currently Amended) The method of ~~any one of claims 1-10~~ claim 1, wherein said target entity is an oligosaccharide, a polysaccharide or a polyketide.
12. (Currently Amended) The method of ~~any one of claims 1-8~~ claim 1, wherein said target entity is a nucleic acid.

13. (Currently Amended) The method of claim 12, wherein the nucleic acid is single-stranded or double-stranded DNA or RNA, or a combination thereof, preferably genomic, viral or plasmid DNA, cDNAs, PCR products or viral RNA.
14. (Currently Amended) A method according to ~~any one of claims 1-8~~ claim 1, wherein the target entity is a viral particle, preferably an adenovirus, adeno-associated virus, retrovirus, lentivirus, poxvirus or herpes virus.
15. (Original) A superabsorbing polymer comprising polymerized vinylic monomers and anionic, cationic and/or zwitterionic monomers.
16. (Original) The supereabsorbing polymer of claim 15, wherein said vinylic monomers are acrylic monomers, acrylic acid or methacrylic acid derivatives, or mixtures thereof.
17. (Original) The superabsorbing polymer of claim 16, wherein said acrylic acid and/or methacrylic acid derivatives are amides and/or esters thereof.
18. (Currently Amended) The superabsorbing polymer of ~~any one of claims 15 to 17~~ claim 15, wherein said polymer is a co-polymer comprising polymerized ionized or ionizable acrylic monomers.
19. (Original) The superabsorbing polymer of claim 18, wherein said ionized or ionizable acrylic monomers are present in concentrations of 0.1 – 100% of the total monomers.
20. (Currently Amended) The superabsorbing polymer of ~~any one of claims 15-19~~ claim 15, wherein said polymer comprises polymerized acrylate, 3-

(methacryloylamino) propyl trimethylammonium chloride and/or [3-

(methacryloylamino)propyl]dimethyl (3-sulfopropyl) ammonium hydroxide.

21. (Currently Amended) The superabsorbing polymer of ~~any one of claims 15 to 20~~ claim 15, wherein said polymer is crosslinked, preferably with a crosslinking degree of 0.0001-10 %, further preferred with a crosslinking degree of 0.01 – 1 %.
22. (Currently Amended) The superabsorbing polymer of ~~an one of claims 15 or 21~~ claim 15, said polymer further comprising a sorbent dispersed in said polymer.
23. (Currently Amended) The superabsorbing polymer of ~~any one of claims 15 to 22~~ claim 15, wherein said polymer undergoes swelling upon contact with water or an aqueous solution.
24. (Currently Amended) A powder comprising the superabsorbing polymer of ~~any one of claims 15-23~~ claim 15.
25. (Currently Amended) A bead comprising the superabsorbing polymer of ~~any one of claims 15-23~~ claim 15, preferably with a diameter in the range of 0.001-10 mm, more preferably with a diameter in the range of 0.1 – 4 mm.
26. (Currently Amended) A surface coating comprising the superabsorbing polymer of ~~any one of claims 15-23~~ claim 15.
27. (Currently Amended) A device comprising the superabsorbing polymer of ~~any one of the claims 15-23~~ claim 15.

28. (Currently Amended) The device of claim 27, further comprising a container selected from the group consisting of a sample tube, a centrifuge tube, a pipette tip, a column, a syringe and a microtiter plate.
29. (Original) The device of claim 28, wherein said superabsorbing polymer is filled into, bound to, or polymerized onto said container.
30. (Original) A process for making a superabsorptive polymer, said process comprising hydrolysis of cross-linked polyacrylamide.
31. (Original) The process of claim 30, wherein said hydrolysis is obtained by treating said cross-linked polyacrylamide with alkali.
32. (Currently Amended) A process for making a superabsorptive polymer, said process comprising polymerizing ionizable acrylic monomers in the presence of a crosslinking agent.

Remarks

Claims 1 to 32 are pending in this application of which claims 1, 15, 30 and 32 are independent form. Claims 1, 4 to 9, 11 to 14, 18, 20 to 28 and 32 have been amended. The above claim amendments were made to eliminate improper multi-dependencies under U.S. practice so as to place the claims in form consistent with 37 CFR 1.75 (c) in order to ensure examination of such claims. Also minor improvement as to form were made.

The amendments are not and shall not be construed as "narrowing." The scope of the claims has not been reduced; no new limitations have been added and none are intended.

The Commissioner is authorized to charge any fee deficiencies and overpayments to deposit account number 50-3135.

Respectfully submitted,

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**June 15, 2006**

*Preliminary Amendment  
National Stage of PCT/CH2004/004125*